

REMARKS

This is a Response to the Office Action mailed January 13, 2003, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire April 13, 2003. There were two (2) independent claims and a total of twenty-two (22) claims paid for in the application. Claims 10-12 have been canceled. Claims 1-9 and 13-22 have been amended. New claims 22-40 have been added. No new matter has been added to the application. Enclosed is our check to cover the fee for a one-month extension of time, to May 13, 2003, and the fee for 15 additional claims. The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 1-9 and 13-40 are pending.

Objections

The drawings, specifications and claims were objected to because of informalities which are corrected by the amendments set forth above as follows. For purposes of clarity, Applicants will address each ground of rejection in the order set forth by the Examiner.

Drawings

(1) Figure 7 has been amended to change the reference number "95" on the left side of Figure 7 to "111" and to remove the arrow heads from the lines corresponding to reference numbers "59" and "57."

Specification

(2) In Paragraph [0050], the reference number "35" after the reference number "33" has been deleted.

(3) In Paragraph [0051], "high side 103" has been changed to "low side 103."

(4) In Paragraph [0059], "high side substrate 55 and low side substrate 53" has been changed to "high side switching assembly 55 and low side switching assembly 53." Furthermore, for consistency, "substrates 53 and 55" has also been changed to "switching assemblies 53 and 55."

(5) In Paragraph [0063], "positive phase terminal" and "negative phase terminal" have been changed to "positive terminal" and "negative terminal," respectively.

(6) In Paragraph [0065], “connection 207” has been changed to “connector 207.”

(7) In Paragraph [0069], “DC bus plate” has been changed to “DC bus 31.”

(8) In Paragraph [0078], the final sentence has been amended to read “The curvature of the compliant portion 223 is greater in the decompressed position illustrated in Figure 23 than in the compressed position shown in Figure 24.”

Furthermore, Paragraphs [0007], [0008], [0016], [0030], [0046], [0061], [0064] and [0066], have been amended as set forth above to correct a number of additional typographical errors.

Claims

(9) The objections to claims 1 and 12 have been obviated by the amendments to claims 1 and 12 set forth above.

Rejections Under 35 U.S.C. §102(b)

Claims 1, 3, 4 and 6-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Uchida (U.S. Patent No. 5,975,914). In addition, claims 1, 2, 4, 5 and 7-9 were rejected under 35 U.S.C. §102(b) as being anticipated by White (U.S. Patent No. 5,395,252).

As amended, claim 1 recites, *inter alia*, “the second end portion is unbiased and electrically couplable to form a non-pressure engagement electrical connection.” (Emphasis added.) Support for this amendment may be found generally throughout the specification, and in particular, in Figures 9, 10, 18 and 19, and the corresponding description of such Figures at page 11, lines 13-28 and page 13, lines 3-12.

Applicants respectfully submit that neither Uchida nor White disclose a second end portion that is unbiased and electrically couplable to form a non-pressure engagement electrical connection. To the contrary, Uchida and White both disclose connectors having two end portions, where both end portions of the connectors are biased into physical contact with two opposing surfaces to form electrical connections with such surfaces when in a deformed position.

Rejections Under 35 U.S.C. § 103

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Uchida (U.S. Patent No. 5,975,914). This rejection is based on the Examiner's conclusion that Uchida discloses the electrical connector of claim 1. However, as set forth above, Uchida does not disclose the electrical connector of amended claim 1. Accordingly, Applicants submit that this ground of rejection has been obviated.

Claims 12, 14, 15 and 17-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Buckle et al. (U.S. Patent No. 4,458,305) in view of Uchida (U.S. Patent No. 5,975,914) and Deam et al. (U.S. Patent No. 5,172,310). In addition, claims 12, 13, 15, 16 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Buckle et al. (U.S. Patent No. 4,458,305) in view of White (U.S. Patent No. 5,395,252) and Deam et al. (U.S. Patent No. 5,172,310).

More specifically, the Examiner is of the opinion that Buckle discloses a DC Bus comprising positive and negative DC conductor bus plates and a connector having one end attached to one of the DC conductor bus plates and the other end attached to a substrate. However, the Examiner further recognizes that the connector of Buckle is a rope connector, which requires welding to make an electrical connection, and that Buckle does not disclose a pressure engagement connector, such as the electrical connector set forth in claim 12. To cure this deficiency, the Examiner relies upon the pressure engagement connectors disclosed by Uchida and White. In view of the foregoing, the Examiner concludes that "it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the connector taught by Buckle such that it would be a pressure engagement connector as taught by Uchida."

Similar to amended claim 1, new claim 24 (which replaces originally filed claim 12) recites, *inter alia*, that the second end portions of the first and second conductive elements are "unbiased and electrically couplable to form a *non-pressure engagement electrical connection*." (Emphasis added.) Support for this amendment may be found generally

throughout the specification, and in particular, in Figures 9 and 19, and the corresponding description of such Figures at page 11, lines 13-25 and page 13, lines 7-12.

As discussed previously, neither Uchida nor White disclose a second end portion that is unbiased and electrically couplable to form a non-pressure engagement electrical connection. Accordingly, Applicants submit that this ground of rejection has been obviated.

Additionally, Applicants respectfully submit that none of the references cited by the Examiner contain any teaching or suggestion that would render the claimed conductive elements obvious. Both Uchida and White are directed to the problem of forming electrical connections between a pair of opposed planar surfaces, such as printed circuit boards ("PCBs"). These references each rely on equal and opposing forces being applied by the opposed planar faces to the disclosed connector and thus, as discussed above, teach connectors in which both end portions are biased to form electrical connections with *two* opposing surfaces when in a deformed position. Applicants submit that neither Uchida nor White provide any suggestion that the disclosed connectors could be modified such that only one end portion is biased to form a "pressure engagement" electrical contact. In fact, the problem solved by Applicants does not necessarily even include a pair of opposed faces. As a result, the connectors of Uchida and White, which rely on the opposing forces provided by such opposed faces, are incapable of forming the "non-pressure engagement electrical connection" of Applicants' connectors.

Furthermore, the ability of both end portions of a connector to form a pressure engagement is a key feature in the embodiments described in both Uchida and White. Both references teach that such connectors are housed in larger connecting units, which are utilized to connect parallel PCBs. In such an application, pressure engagement connectors provide for an easy assembly and a fast and secure electrical connection between the connecting unit and the PCBs. Thus, not only is there no motivation in the art to modify the connectors disclosed by Uchida and White, it is arguable that there are actually teachings against such a modification.

New Claims

As a final matter, new claims 24-40 have been added. Such new claims are directed to the specific embodiment set forth in Figure 20, and the corresponding description of such Figure at page 13, lines 13-23.

Conclusion


Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claims 1, 24 and 29, and thus such claims are allowable. Because the remaining claims depend from allowable independent claims 1, 24 and 29, and also because they include additional limitations, such claims are likewise allowable. If the undersigned attorney has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. Examiner Hyeon is encouraged to contact Ms. Wagner by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, the Examiner is encouraged to contact Ms. Wagner by telephone to expediently correct such informalities.

Respectfully submitted,

Scott Parkhill et al.

SEED Intellectual Property Law Group PLLC



Emily W. Wagner
Registration No. 50,922

EWW:cew

Attachment: Replacement Drawing Sheet containing Figures 6, 7 and 8

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031

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